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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,617	05/08/2006	Kazunari Kobayashi	290768US2PCT	3715

22850 7590 01/21/2010

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EXAMINER	
DAVIS, PATRICIA A	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
01/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/578,617	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	PATRICIA DAVIS	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1; 11;13-22* is/are pending in the application.

4a) Of the above claim(s) *16 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1; 11; 13-15;18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 16, 2009 has been entered.

2. The text of those sections of Title 35 U.S.C. code not included in this action can be found in the prior Office Action issued on August 14, 2009.

Claim Rejections - 35 USC § 102/103

3. Claims 1, 11, 13-15 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative under 35 U.S.C. 103(a) as obvious over Hikata et al (JP 7-94193) (hereinafter "Hikata").

Regarding claim 1, Hikata teaches an active material for a battery anode, the material is made of zinc and virtually contains no lead (see paragraphs 0001 and 0010). Hikata further discloses the active material consists of zinc for the major substance with 0.1-0.8 percent mass of bismuth (1000 ppm or 0.1%) (see par. 0010 and Table 2, line

74). Hikata further teaches that the processing temperature is in the range of 180-220 degrees (see par. 0013). Although, Hikata does not specifically teach that the disclosed material exhibits the recited change in weight due to corrosion upon exposure to the electrolyte solution as claimed. However, regarding composition claims, if the composition is the same, it must have the same properties (see MPEP § 2112.01, II.). Consequently, as Hikata teaches the same material composition, it is inherently anticipated that the active material for the battery anode would exhibit the same properties as recited in the claim.

Hikata does not specifically teach the average grain size diameter of said zinc sheet and said zinc can to be in the range of 7.8 to 25.1 μm.

However, it is inherent that the average grain diameter of said zinc sheet and said zinc can would be in the range of 7.8 to 25.1 μm, because the instant application has the same assignee as Hikata.

In the alternative, the active material size can be optimized for the surface area of the reaction. The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.).

Therefore, it would have been obvious to one with ordinary skill in the art to optimize the average grain diameter of said zinc sheet and said zinc can in the manganese dry battery, because it would optimize the surface area of reaction.

Regarding claim 11, Hikata teaches the active material having a concentration of 99.99% or more of zinc metal (see paragraph 0010).

Regarding claims 13 and 14, Hikata teaches a method of manufacturing a manganese dry battery with use of an anode zinc plate which is processed from an anode active material sheet in a temperature in a range of 120-210 degree Centigrade (180-220 degree Centigrade) where the material contains zinc and the addition of bismuth (see pars. 0006 and 0013; Table 2, line 74; and claim 1).

Regarding claim 15, Hikata does not specifically teach the metallographic grain size ratio.

However, it is inherent that the metallographic grain size diameter would be in the range of 1.04 to 1.41 of said zinc sheet and said zinc can, because the instant application has the same assignee as Hikata.

In the alternative, the active material particle size can be optimized for the surface area of the reaction. The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.).

Therefore, it would have been obvious to one with ordinary skill in the art to optimize the average grain diameter of said zinc sheet and said zinc can in the manganese dry battery, because it would optimize the surface area of reaction.

Regarding claim 18, Hikata teaches an active material for a battery anode, the material is made of zinc and virtually contains no lead (see paragraphs 0001 and 0010).

Hikata further discloses the active material consists of zinc for the major substance with 0.1-0.8 percent mass of bismuth (1000 ppm or 0.1%) and magnesium in the range of 0.0003-0.003 percent by mass (10 ppm or 0.001%) (see pars. 0008, 0010 and Table 2, line 74). Hikata further teaches that the processing temperature is in the range of 180-220 degrees (see par. 0013). Although, Hikata does not specifically teach that the disclosed material exhibits the recited change in weight due to corrosion upon exposure to the electrolyte solution as claimed. However, regarding composition claims, if the composition is the same, it must have the same properties (see MPEP § 2112.01, II.). Consequently, as Hikata teaches the same material composition, it is inherently anticipated that the active material for the battery anode would exhibit the same properties as recited in the claim.

Hikata does not specifically teach the average grain size diameter of said zinc sheet and said zinc can to be in the range of 7.8 to 25.1 μm.

However, it is inherent that the average grain diameter of said zinc sheet and said zinc can would be in the range of 7.8 to 25.1 μm, because the instant application has the same assignee as Hikata.

In the alternative, the active material size can be optimized for the surface area of the reaction. The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.).

Therefore, it would have been obvious to one with ordinary skill in the art to optimize the average grain diameter of said zinc sheet and said zinc can in the manganese dry battery, because it would optimize the surface area of reaction.

Regarding claim 19, Hikata teaches the active material having a concentration of 99.99% or more of zinc metal (see paragraph 0010).

Regarding claims 20 and 21, Hikata teaches a method of manufacturing a manganese dry battery with use of an anode zinc plate which is processed from an anode active material sheet in a temperature in a range of 120-210 degree Centigrade (180-220 degree Centigrade) where the material contains zinc and the addition of bismuth (see pars. 0006 and 0013; Table 2, line 74; and claim 1).

Regarding claim 22, Hikata does not specifically teach the metallographic grain size ratio.

However, it is inherent that the metallographic grain size diameter would be in the range of 1.04 to 1.41 of said zinc sheet and said zinc can, because the instant application has the same assignee as Hikata.

In the alternative, the active material particle size can be optimized for the surface area of the reaction. The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.).

Therefore, it would have been obvious to one with ordinary skill in the art to optimize the average grain diameter of said zinc sheet and said zinc can in the manganese dry battery, because it would optimize the surface area of reaction.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA DAVIS whose telephone number is (571)270-7868. The examiner can normally be reached on 7:30am-5pm EST. Monday-Friday, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA DAVIS/
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795
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